

## **ABSTRACT OF THE DISCLOSURE**

Various embodiments of a method and apparatus for simulating temperature characteristics of a diode are disclosed. The output of a diode simulator may not depend  
5 upon its ambient temperature. Therefore, it may be used to calibrate a temperature measurement unit at any ambient temperature within its operational range regardless of the temperature to which the temperature measurement unit is to be calibrated. Even if the ambient temperature of the facility in which the calibration is performed varies during the calibration procedure, the output of the diode simulator may remain constant. These  
10 characteristics of the diode simulator may allow for calibration of a temperature measurement unit in significantly less time than by using prior art methods, which include the requirement to tightly control the temperature of one or more system components.